



Contribution ID: 5

Type: **oral**

# Precision Measurement of $\pi\pi$ Scattering Lengths in $K_{e4}$ Decays

*Tuesday, 12 October 2010 15:35 (25 minutes)*

The measurement of the S-wave  $\pi\pi$  scattering lengths is a fundamental test of the validity of Chiral Perturbation Theory. We report on the final NA48/2 result, which uses the complete NA48/2 data set with more than a million reconstructed  $K_{e4}$  decays. From these events we have determined the decay form factors and  $\pi\pi$  scattering lengths  $a_0^0$  and  $a_2^0$ . The result is the most precise measurement of the scattering lengths and in excellent agreement with the prediction of Chiral Perturbation Theory.

**Primary author:** BIINO, Cristina (INFN Torino)

**Presenter:** BIINO, Cristina (INFN Torino)

**Session Classification:** Kaon Physics

**Track Classification:** Kaons